UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,937	11/06/2000	Thomas Huber	N0070US	8577

37583 7590 06/25/2008

NAVTEQ NORTH AMERICA, LLC
425 West RANDOLPH STREET
SUITE 1200, PATENT DEPT
CHICAGO, IL 60606

EXAMINER	
LE, MIRANDA	

ART UNIT	PAPER NUMBER
2167	

MAIL DATE	DELIVERY MODE
06/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/706,937	HUBER ET AL.	
	Examiner	Art Unit	
	MIRANDA LE	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Amendment filed 03/19/08.

Claims 1-6, 8-15 are pending in this application. Claims 1, 2, 14 are independent claims. In the Amendment, claims 1-2, 3, 14 have been amended. This action is made Final.

2. The objection to the specification (claim objection) of the invention has been withdrawn in view of the amendment as Applicant has provided evidence that "computer readable medium" intended to be covered only as "magnetic media or CD-ROM".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless:
>
> (e) the invention was described in
>
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or
>
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Rutledge et al. (US Patent No. 6,650,998).

Rutledge anticipated independent claim 14 by the following:

As per claim 14, Rutledge teaches a computer implemented index stored on a computer readable medium comprising:

a single indexing structure *(i.e. database 150, See Fig. 10, col. 12, lines 12-16)* that includes a first dimension, a second dimension, a third dimension,

wherein said first dimension includes latitude boundary information *(i.e. the minimum latitude, the maximum latitude, col. 12, lines 12-16)*,

wherein said second dimension includes longitude boundary information *(i.e. the minimum longitude, and the maximum longitude, col. 12, lines 12-16),* wherein said longitude boundary information define a bounded area represented by a maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude, said data indexed by said structure are searchable using computer-executable instructions and a latitude, a longitude and said first and second dimension of said indexing structure *(i.e. FIG. 8 illustrates an exemplary search query generated by the database handler 195. As shown in FIG. 8, the query format includes fields for a search string, a "new request" bit, an auto-fetch bit, a time reference, and a geographic reference. The geographic reference includes a minimum latitude (MINLAT), a maximum latitude (MAXLAT), a minimum longitude (MINLONG), and a maximum longitude (MAXLONG). The search string, the auto-fetch bit, and the geographic reference are specified by the user in accordance with the web search option of the search feature described above, col. 9, line 66 to col. 10, line 9)*,

wherein said third dimension includes a selectivity of said indexed data *(i.e. PLACE NAME, See Fig. 10)*, said data indexed by said indexing structure is searchable for said selectivity using computer-executable instructions and said third dimension of said indexing structure *(i.e. filter 190 is coupled to a location/coordinates database 150 which stores*

information correlating place names to a range of coordinates defined in terms of latitude and longitude, col. 11, line 65 to col. 12, line 11).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-6, 8, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutledge et al. (US Patent No. 6,650,998), in view of Israni et al. (US Patent No. 6,308,177).

As per claim 1, Rutledge teaches a computer-implemented method of operating a navigation system, said method comprising:

using a geographic database *(i.e. database 150, See Fig. 10, col. 12, lines 12-16)* containing data that represents geographic features, wherein said database includes an indexing

structure with dimensions, wherein a first dimension of said three dimensions includes latitude boundary information *(i.e. the minimum latitude, the maximum latitude, col. 12, lines 12-16)*, wherein a second dimension of said three dimensions includes longitude boundary information *(i.e. the minimum longitude, and the maximum longitude, col. 12, lines 12-16),* wherein said latitude boundary information and said longitude boundary information define a bounded area represented by a maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude, wherein a third dimension *(i.e. the state, the country, col. 12, lines 12-16)* of said three dimensions *(i.e. FIG. 10 illustrates the format of the location/coordinates database 150. As shown in FIG. 10, the database contains records for each place name. Each record for each place name includes fields for the state, the country, the minimum latitude, the maximum latitude, the minimum longitude, and the maximum longitude, corresponding to the place name, col. 12, lines 12-16)*,

searching said geographic database for data representing a geographic feature using a latitude values *(i.e. MINLAT, MAXLAT, col. 9, line 66 to col. 10, line 9)*, a longitude value *(i.e. MINLONG, MAXLONG, col. 9, line 66 to col. 10, line 9)* and *(i.e. filter 190 is coupled to a location/coordinates database 150 which stores information correlating place names to a range of coordinates defined in terms of latitude and longitude, col. 11, line 65 to col. 12, line 11)*, wherein said search uses said first and second dimensions of said indexing structure to identify the bounded area in which the latitude value and longitude value falls within, *(i.e. FIG. 8 illustrates an exemplary search query generated by the database handler 195. As shown in FIG. 8, the query format includes fields for a search string, a "new request" bit, an auto-fetch bit, a time reference, and a geographic reference. The geographic reference includes a minimum*

latitude (MINLAT), a maximum latitude (MAXLAT), a minimum longitude (MINLONG), and a maximum longitude (MAXLONG). The search string, the auto-fetch bit, and the geographic reference are specified by the user in accordance with the web search option of the search feature described above, col. 9, line 66 to col. 10, line 9).

Rutledge does not teach:

wherein a third dimension of said three dimensions includes rank information, wherein each of said geographic features have an associated rank information, wherein said rank information has at least two levels, a first level of rank is associated with the most important geographic features and a second level of rank is associated with geographic features of lesser importance;

a rank value;

wherein said search uses said third dimension of said indexing structure to identify said level of rank corresponding to said rank value.

Israni teaches:

wherein a third dimension of said three dimensions includes rank information, wherein each of said geographic features have an associated rank information, wherein said rank information has at least two levels, a first level of rank is associated with the most important geographic features and a second level of rank is associated with geographic features of lesser importance *(Layers, 1, 2, 3, 4, Fig. 5A)*;

a rank value *(i.e. assuming the street segments are given ranks of I to IV depending on the street type (e.g. alley or interstate), Layer 0 can be defined to include all ranks I-IV, Layer I can be defined to include only ranks II-IV (omitting rank I streets), and so on.) The route*

calculation function may be performed by using combinations of the layers, using the higher layers to the extent possible, col. 9, lines 30-50);

wherein said search uses said third dimension of said indexing structure to identify said level of rank corresponding to said rank value *(i.e. assuming the street segments are given ranks of I to IV depending on the street type (e.g. alley or interstate), Layer 0 can be defined to include all ranks I-IV, Layer I can be defined to include only ranks II-IV (omitting rank I streets), and so on.) The route calculation function may be performed by using combinations of the layers, using the higher layers to the extent possible, col. 9, lines 30-50).*

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Israni at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Israni. One of ordinary skill in the art would be motivated to make this combination in order to have higher layers of a data type contain less detail than lower layers in view of Israni, as doing so would give the added benefit of obtaining the map display function that has its subset of the geographic data organized to facilitate rapid panning and zooming, as taught by Israni (col. 9, lines 51-65).

As per claim 2, Rutledge teaches a computer-implemented index stored on a computer readable medium for a geographic database containing geographic data that represent geographic features, said index comprising:

a single index structure *(i.e. database 150, See Fig. 10, col. 12, lines 12-16)* that includes two spatial dimensions *(i.e. the minimum latitude, the maximum latitude, the minimum longitude, and the maximum longitude, corresponding to the place name, col. 12, lines 12-16)* and a non-

spatial third dimension *(i.e. the state, the country, col. 12, lines 12-16)*, wherein said two spatial dimensions define a bounded area represented by a maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude *(i.e. FIG. 10 illustrates the format of the location/coordinates database 150. As shown in FIG. 10, the database contains records for each place name. Each record for each place name includes fields for the state, the country, the minimum latitude, the maximum latitude, the minimum longitude, and the maximum longitude, corresponding to the place name, col. 12, lines 12-16)*,

said geographic data indexed by said structure are searchable spatially using computer-executable instructions and said two spatial dimensions of said index structure and a latitude and a longitude *(i.e. FIG. 8 illustrates an exemplary search query generated by the database handler 195. As shown in FIG. 8, the query format includes fields for a search string, a "new request" bit, an auto-fetch bit, a time reference, and a geographic reference. The geographic reference includes a minimum latitude (MINLAT), a maximum latitude (MAXLAT), a minimum longitude (MINLONG), and a maximum longitude (MAXLONG). The search string, the auto-fetch bit, and the geographic reference are specified by the user in accordance with the web search option of the search feature described above, col. 9, line 66 to col. 10, line 9)*,

said geographic data indexed by said structure are searchable for a non-spatial property of the indexed geographic data that represent the geographic features using computer-executable instructions and said third dimension of said index structure *(i.e. filter 190 is coupled to a location/coordinates database 150 which stores information correlating place names to a range of coordinates defined in terms of latitude and longitude, col. 11, line 65 to col. 12, line 11)*.

Rutledge does not teach:

wherein said non-spatial property of the geographic data includes at least one of:

a rank associated with the geographic features represented by the geographic data, a granularity of said indexed geographic data, and a scale associated with said indexed geographic data;

wherein said structure is a k-d-tree index structure comprising a root node, intermediate nodes and leaf nodes.

Israni teaches:

non-spatial property of the geographic data includes a rank associated with the geographic features represented by the geographic data *(i.e. assuming the street segments are given ranks of I to IV depending on the street type (e.g. alley or interstate), Layer 0 can be defined to include all ranks I-IV, Layer I can be defined to include only ranks II-IV (omitting rank I streets), and so on.) The route calculation function may be performed by using combinations of the layers, using the higher layers to the extent possible, col. 9, lines 30-50)*;

wherein said structure is a k-d-tree index structure comprising a root node, intermediate nodes and leaf nodes *(See Fig. 5A)*.

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Israni at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Israni. One of ordinary skill in the art would be motivated to make this combination in order to have higher layers of a data type contain less detail than lower layers in view of Israni, as doing so would give the added benefit of obtaining the map display function that has its subset of the geographic data organized to facilitate rapid panning and zooming as taught by Israni (col. 9, lines 51-65).

As per claim 3, Israni teaches the method of Claim 1, wherein said structure is a k-d-tree index structure comprising a root node, intermediate nodes and leaf nodes, wherein each node is a part of a parent-child relationship wherein each parent node includes control information from which one of at least two child nodes associated with the parent node are distinguishable based on search key *(See Fig. 5A)*.

As per claim 4, Rutledge teaches the invention of Claim 1 or 2 wherein said index is homogeneous *(i.e. filter 190 is coupled to a location/coordinates database 150 which stores information correlating place names to a range of coordinates defined in terms of latitude and longitude, col. 11, line 65 to col. 12, line 11)*.

As per claim 5, Israni teaches the invention of Claim 1 or 2 wherein said index is non-homogeneous *(See Fig. 5A)*.

As per claim 6, Israni teaches the invention of Claim 1 or 2 wherein said geographic features are roads *(i.e. The route calculation function may be performed by using combinations of the layers, using the higher layers to the extent possible, col. 9, lines 30-50)*.

As per claim 8, Israni teaches the invention of Claim 1 or 2 wherein said rank includes both integer and fractional value *(i.e. In alternative embodiments, other-than-degree values can be chosen as units to represent dimensions, and measurement units can be chosen that include fractions, col. 12, lines 44-54)*.

As per claim 15, Rutledge does not teach the method index of Claim 1 wherein said data that represent geographic features are organized into layers based on said rank associated with the represented features.

Israni teaches this limitation *(i.e. assuming the street segments are given ranks of I to IV depending on the street type (e.g. alley or interstate), Layer 0 can be defined to include all ranks I-IV, Layer I can be defined to include only ranks II-IV (omitting rank I streets), and so on.) The route calculation function may be performed by using combinations of the layers, using the higher layers to the extent possible, col. 9, lines 30-50)*.

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Israni at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Israni. One of ordinary skill in the art would be motivated to make this combination in order to have higher layers of a data type contain less detail than lower layers in view of Israni, as doing so would give the added benefit of obtaining the map display function that has its subset of the geographic data organized to facilitate rapid panning and zooming as taught by Israni (col. 9, lines 51-65).

7. Claims 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutledge et al. (US Patent No. 6,650,998), in view of Ashby (US Patent No. 5,974,419).

As per claim 9, Rutledge does not teach the invention of Claim 14 wherein said selectivity is a granularity of the indexed data.

Ashby teaches this limitation *(i.e. the points may be taken as representing the areas of rectangles of a grid of appropriate granularity such that each rectangle of the grid encompasses only one node in the geographic area, col. 19, lines 6-22).*

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Ashby at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Ashby. One of ordinary skill in the art would be motivated to make this combination in order to have a rectangle representing an existing parcel (of a previously created parcel type) must be divided into two or more rectangles in order to create parcels of a new type in view of Ashby (col. 18, line 57 to col. 19, line 4), as doing so would give the added benefit of providing a way to organize and store data so that they are organized in the database and/or on a medium based the geographic locations of the features which are represented by the data as taught by Ashby (Summary).

As per claim 10, Rutledge does not teach the invention of Claim 14 wherein said selectivity is a viewing altitude associated with the indexed data.

Ashby teaches this limitation *(i.e. Each of these locations 14 has a unique physical location (latitude, longitude, and optionally absolute or relative altitude) and each of the locations 14 can be uniquely identified by its two dimensional (or three dimensional) geographic coordinates, (i.e., latitude, longitude, and optionally altitude). A location 14 may correspond to one of the nodes located at the end of road segment data entity, or may correspond to a point-of-interest, such as a hotel or civic center, or may correspond to a point along a road segment at*

which the direction of the road changes. The locations 14 may represent anything physically located in the geographic area 12, col. 5, lines 20-36).

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Ashby at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Ashby. One of ordinary skill in the art would be motivated to make this combination in order to uniquely identify a location by its three dimensional geographic coordinates in view of Ashby (12, col. 5, lines 20-36), as doing so would give the added benefit of providing a way to organize and store data so that they are organized in the database and/or on a medium based the geographic locations of the features which are represented by the data as taught by Ashby (Summary).

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutledge et al. (US Patent No. 6,650,998), in view of Shaw et al. (US Patent No. 6,684,219).

As per claim 11, Rutledge does not teach the invention of Claim 14, wherein said selectivity is a scale associated with the indexed data.

Shaw teaches this limitation *(i.e. each separate product is defined by a product specification implemented with a VPF structure. Just as different types and scales of maps may be created for a geographic area, each designed for a different use, there are several types of VPF products with differing levels of feature content and density, col. 4, lines 7-30).*

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Shaw at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Shaw. One of ordinary skill in the art would be motivated to make this combination in order to build and maintain an object-oriented database from a vector

product format (VPF) database in view of Shaw (Summary), as doing so would give the added benefit of a geospatial information distribution system that allows a user to rapidly build a user-specified topological display from a database having vector, raster, and/or text data as taught by Shaw (Summary).

8. Claims 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutledge et al. (US Patent No. 6,650,998), in view of Dunworth et al. (US Patent No. 5,930,474).

As per claim 12, Rutledge does not teach the invention of Claim 14 wherein said selectivity is an expiration date associated with the indexed data.

Dunworth teaches this limitation *(i.e. An expiration date field 1700 includes the date or dates that this listing expires, while a name field 1705 includes, in text form, the name to be shown on the listing. Address and city fields 1710, 1715, respectively show the street address to be shown on the listing and the city name. In addition, a state field 1720 as well as a zip code field 1725, respectively, include the state name and the postal or zip code of the listing, col. 24, lines 29-39).*

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Dunworth at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Dunworth. One of ordinary skill in the art would be motivated to make this combination in order to display information stored within the yellow page database associated with an individual entity in view of Dunworth (col. 16, lines 48-65), as doing so would give the added benefit of providing a user with a means whereby information which is associated with particular geographic locations can be readily accessed, as taught by Dunworth (col. 16, lines 48-65).

As per claim 13, Rutledge does not teach the invention of Claim 14 wherein said selectivity is a creation date associated with the indexed data.

Dunworth teaches this limitation *(i.e. If this directory does not exist, it will be created. In the case where the directory does not exist, the anchor points to a default file in the specified directory, col. 26, lines 59-67).*

It would have been obvious to one of ordinary skill of the art having the teaching of Rutledge and Dunworth at the time the invention was made to modify the system of Rutledge to include the limitations as taught by Dunworth. One of ordinary skill in the art would be motivated to make this combination in order to organize information into a consistent presentation of menu selections and geographically organized information in view of Dunworth (Summary), as doing so would give the added benefit of at specified levels of the geographically organized information, the user is presented with the option of accessing topically organized information from among several topic selections, wherein the topical information is defined by the fact that the topical information is associated with a particular geographical area as taught by Dunworth (Summary).

Response to Arguments

9. With respect to claims 1-6, 8-16, Applicants have amended the independent claim 1, 2, 14 to recite new limitations "searching said geographic database for data representing a geographic feature using a latitude value, a longitude value and a rank value, wherein said search uses said first and second dimensions of said indexing structure to identify the bounded area in which the latitude value and longitude value falls within, wherein said search uses said third

dimension of said indexing structure to identify said level of rank corresponding to said rank value"; "wherein said two spatial dimensions define a bounded area represented by a maximum latitude, a maximum longitude, a minimum latitude and a minimum longitude…"; however, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham, can be reached on (571) 272-7079. The fax number to this Art Unit is (571)-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Miranda Le/

Primary Examiner, Art Unit 2167